

REMARKS/ARGUMENTS:

Claim 6 is canceled without prejudice. Claims 1 and 7 are amended. New claims 8-11 are added. Claims 1-5 and 7-11 are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. §103:

Claims 1-5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada et al. (U.S. Patent No. 5,545,443) in combination with Lau et al. ("Growth of Epitaxial ZnO thin films by organometallic Chemical Vapor Deposition").

Claims 6 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada in combination with Lau, further in combination with Nishida (U.S. Patent No. 5,002,796) or vice versa.

The above rejections are moot with respect to claim 6 due to the cancellation of this claim. Applicant respectfully traverses the above rejections as to amended claims 1-5 and 7. Claim 1, as amended, includes the limitations of canceled claim 6.

In the Final Office Action, the Office alleges that the combination of Yamada and Lau and the combination of Yamada, Lau, and Nishida are obvious. However, Nishida relates to a method for forming a ZnO layer by a sputtering method onto an inexpensive substrate such as glass (Nishida, column 2, lines 38-46). In contrast, Lau relates to an Epitaxial Growth of ZnO by CVD method, namely, monocrystalline ZnO is deposited onto a monocrystalline R-plane sapphire (Lau, page 1844, right column, line 10). Therefore, a person of ordinary skill in the art would have no reason to expect success by combining these references.

In addition, epitaxial growth is a very specific way for producing a monocrystalline layer onto a monocrystalline base. Thus, even if a ZnO layer could

be formed successfully by an epitaxial method, a person of ordinary skill in the art would not expect the result of non-epitaxial CVD ZnO formation.

Furthermore, improved conversion efficiency in a tandem thin-film photoelectric converter of the present invention (Comparison between the Examples and Comparative Examples) is an unexpected result in view of the cited references.

In summary, Applicant respectfully submits that the method of the present invention does not include an epitaxial method as taught by Lau, since a back electrode layer (claim 1), and a transparent electrode layer (claim 7) of the thin-film photoelectric converter is not deposited on a monocrystalline layer.

In light of the foregoing, Applicant respectfully submits that the cited references cannot render amended claims 1-5 and 7 obvious, because the cited references fail to teach or suggest each and every claim limitation. Withdrawal of the above rejections is thus respectfully requested.

Claims 1-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over WO 03/021690 – translation provided by Kroll et al. (U.S. Patent No. 7,390,731) or Vijayakumar et al. (U.S. Patent No. 4,751,149) in combination with Lau. This rejection is moot with respect to claim 6 due to the cancellation of this claim. Applicant respectfully traverses this rejection as to amended claims 1-5 and 7.

Both Kroll and Vijayakumar relate to a method of forming ZnO layers by a CVD method suitable for solar cells. However, neither of these reference explicitly teach or suggest an epitaxial method as taught by Lau.

Kroll discloses that a transparent conductive oxide film such as ZnO is deposited on the substrate in a solar cell, implying that the substrate has to be a transparent substrate such as glass (column 2, lines 3-53), which cannot be monocrystalline.

Vijayakumar is silent as to a substrate, but discloses that polycrystalline boron containing zinc oxide was formed (column 4, line 21). This indicates that the

deposition is not an epitaxial and thus implies that the substrate is not monocrystalline.

The Office alleges that the combination of references is obvious with the expectation of achieving improved uniformity and surface finish as taught by Lau. However, the uniformity and surface finish of Lau is due to the epitaxial method. Therefore, Applicant respectfully submits that a person of ordinary skill in the art would not have conceived of the Examiner's alleged expectation, since neither Kroll nor Vijayakumar relate to an epitaxial method.

In light of the foregoing, Applicant respectfully submits that the cited references cannot render amended claims 1-5 and 7 obvious, because the cited references fail to teach or suggest each and every claim limitation. Withdrawal of this rejection is thus respectfully requested.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310) 785-4600 to discuss the steps necessary for placing the application in condition for allowance.

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If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,

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